PTW Safety Checklist No. 29

LIFTING OPERATIONS INVOLVING CRANE OR HIAB

Other Checklists that may be relevant:		24, 56, 57
Permit Number:		**Date:**
Rev 3.0	**Issue Date:** 19/02/2018	**Authorised By:** PSM

Lift Planning:

Before permit issue the correct class of lift is to be identified. The persons designated to the following positions are to be identified for all classes of lift and made known to all involved with the lift. They shall also hold the appropriate competencies as listed in this checklist:

***** *May be same person*.

PICOL(Person In Charge Of the Lift) ***** Name: _____

Competent Rigger/Slinger ***** Name: _____

Competent Dogman/Banksman ***** Name: _____

Crane Driver Name:_____

Nominated Operations or Engineering Representative: _____
(at Permit Issuer discretion)

Lift Classifications - Complex Lift

Check the following to see if the lift is classified as a Complex Lift

		Y	N	N/A
1	Any lifts over live plant designated by Operations (ROS/PI) as high risk	☐	☐	
2	Lifts exceeding 90% of the crane/hiab safe working load (SWL) at the working radius	☐	☐	
3	Any lifts exceeding 20 tonnes in gross weight, or	☐	☐	
4	Any lifts exceeding 15 tonnes in gross weight that requires rigging up on site and using non dedicated rigging equipment.	☐	☐	
5	Any load lowered or lifted from within a confined space	☐	☐	
6	Is the lifting of personnel or use of man riding winches involved?	☐	☐	
7	Does the lift require two or more cranes to place/remove the object to be lifted	☐	☐	
8	Loads where the centre of gravity or the weight is unknown or cannot be accurately estimated and requires specialist rigging and lifting arrangements	☐	☐	

If the answer is yes to any of the above, proceed as a Complex Lift.

Confirm the following is prepared for all **Complex Lifts**

- A written lifting procedure is "prepared" by a competent person, then "checked and signed as approved" by another competent person and is appended to the Permit. This includes drawings of the crane location, lifting arcs and angles, and crane load charts. Specific lifting equipment shall also be listed and certificates supplied. ☐
- Any specialty lift (i.e. a high level of Complex Lift, or a one-off exercise which is typically part of an engineering project) requires an engineer designed lifting plan which also requires an approved signature process.

Non-Routine Lift

Check the following to see if the lift is classified as a Non-Routine Lift

		Y	N	N/A
1	Are lifts over or within 5m of live plant and designated by Ops (ROS/PI) as potentially high risk.	☐	☐	
2	Is there limited headroom or restricted access?	☐	☐	
3	Crane is on rough ground or uneven terrain or load is transported by crane.	☐	☐	
4	The load is a very long or awkward shape, or liable to be affected by wind.	☐	☐	

If the answer is Yes to any of the above, proceed with a Non-Routine Lift.

Confirm the following is prepared for a Non Routine Lift

- A written lifting procedure approved by the PICOL is appended to the Permit. This includes drawings of the crane location, the load, lifting arcs and angles, and the crane safe load charts. Specific lifting equipment shall also be listed and certificates supplied. ☐
- A hazard assessment has been conducted of the proposed route a crane is required to travel with a load suspended from its hook and within the manufactures specifications. The practice of travelling with suspended loads should be avoided if possible & the loads must be adequately secured. ☐ ☐

Routine Lift

Check the following to see if the lift is classified as a Routine Lift:

1 Any lift in "non process" areas or in a process area with perimeter of load more than 5 metres to adjacent plant and equipment. ☐ ☐

2 Load has known weight, known centre of gravity (COG) and is less than 90% of crane or hiab capacity. ☐ ☐

3 Any lift not exceeding 20 tonnes in weight and having dedicated rigging or alternatively 15 tonnes in weight using certified rigging equipment subject to the above conditions. ☐ ☐

If the answer is yes to all of the above, proceed as a Routine Lift.

A Lift Plan is not required for Routine Lifts. Detail To be included in JHA.

Preparation for all classes of lifts prior to permit issue:

	Y	N	N/A
• PI or AT have confirmed requirements for plant isolation / protection.	☐		☐
• Ground conditions and underground services have been considered in the placement of crane / hiab.	☐		☐
• All obvious and potentially hazardous overhead obstructions have been identified.	☐		☐
• The crane / hiab is certified and within inspection date.	☐		

Prior to commencing task

	Y	N	N/A
• Crane / hiab operator has positioned and set up crane / hiab as per manufacturer's operating procedures. Confirm lift plans are within safe working loads as specified in the crane lifting charts and pre lift safety systems check completed. Signed:_____ Date:_____	☐		
• **List maximum wind speed as determined by the Adverse Weather Guidelines or crane specifications:**_____			
• If the scope or conditions change, the lift shall be aborted, the PI / Competent Person shall be informed. Lift procedure and JHA is to be revised, and a new toolbox talk held prior to commencement of lift.	☐		
• Signalling methods and communications agreed using a sole designated radio channel when the load is unsighted by the crane driver.	☐		
• All rigging equipment ie slings, shackles, lever blocks, chain blocks, turfers etc have been inspected, are fit for use and are within certification date.	☐		
• Tag lines are to be used wherever possible to ensure control over the load is maintained.	☐		
• The lift area has been roped off and/or signs and barriers erected to warn personnel in adjacent areas	☐		
• Loads are not left suspended when the crane is unattended.	☐		
• Prior to the use of any welded pad-eye lifting lugs on vessels or equipment, manway closure davit arms, hatches or motors. Visual checks and NDT have been carried out to provide full assurance by a Facilities Inspector or Mechanical Engineer and approved for use. Inspector Sign:_____ Date:_____	☐		

Position/Role	Required Competencies And Qualifications (Unit Standards)	Competency held by (insert name)
Person-in-charge of lift (PICOL) Using HIAB	Must hold **at least one** of the following NZQA Unit Standards: • 26350 – Use common rigging equipment to lift and move loads • 9559 – Sling routine loads and communicate during crane operations in a petrochemical workplace	
PICOL Crane or HIAB	• 3789 – Sling regular loads and communicate during crane operations	
Approved Competent Person **For Complex Lift**	In addition to the above competencies **at least one** of the following is required for a Complex Lift: • 3799 – Plan and direct complex lifting operations • 9561 – Manage the lifting and placing of complex loads on a petrochemical offshore installation • National Certificate – Intermediate Rigging Level-3 which includes Unit Standards 4214, 4215 & 4216	
Dogman/ Banksman / Rigger / Slinger	Must hold **at least one** the following NZQA Unit Standards: • 26350 – Use common rigging equipment to lift and move loads • 9559 – Sling routine loads and communicate during crane operations in a petrochemical workplace • 3789 - Sling regular loads and communicate during crane operations	
Crane Operator Onshore	• Has passed a crane operator course from an approved training facility, appropriate to the type and capacity of crane they will be required to operate Must hold **ALL** the following NZQA Unit Standards: • 3788 Demonstrate knowledge of skills required in the crane industry • 3787 – Demonstrate knowledge of regulatory requirements pertaining to cranes • 3795 – Configure mobile crane and lift and place loads Alternatively, hold the following: • National Certificate in Crane Operations (Mobile)	
Truck Mounted Crane/Hiab/Side Loader Operator **For Routine Lift**	• Has passed a crane operator course from an approved training facility, appropriate to the type and capacity of crane they are operating and / or hold at least **one of** the following two Unit Standards as appropriate to the unit they are operating • 16617 – Use a truck loader crane to lift and place loads • 1754 – Operate truck-mounted load lifting equipment. Also must hold **at least one of** the following NZQA Unit Standards: • 26350 – Use common rigging equipment to lift and move loads • 9559 – Sling routine loads and communicate during crane operations in a petrochemical workplace • 3789 – Sling regular loads and communicate during crane operations	
Overhead Gantry Crane Operator (>10 tonne SWL)	• Must have passed an overhead crane operator training course appropriate for the equipment being used or have been assessed in the use of the equipment by an independent party and hold both the following Unit Standards • 3800 – Operate a pendant controlled overhead crane and lift and place regular loads • 3789 – Sling regular loads & communicate during crane operations	

MULTIPLE LIFT CHART

- **The following chart is to be completed and signed by the PICOL and crane driver for each lift when multiple lifts are carried out on the one permit.**

	Value		PICOL	Driver
Lifting Radius (maximum)				
Boom Length				
Load Chart Using				
Crane Capacity (at maximum radius & boom length)				
Load Weight				
Estimated weight if actual weight not known				
Ground conditions checked and are suitable				
Load is not more than 90% of crane capacity (at working radius)	Yes	No		

	Value		PICOL	Driver
Lifting Radius (maximum)				
Boom Length				
Load Chart Using				
Crane Capacity (at maximum radius & boom length)				
Load Weight				
Estimated weight if actual weight not known				
Ground conditions checked and are suitable				
Load is not more than 90% of crane capacity (at working radius)	Yes	No		

	Value		PICOL	Driver
Lifting Radius (maximum)				
Boom Length				
Load Chart Using				
Crane Capacity (at maximum radius & boom length)				
Load Weight				
Estimated weight if actual weight not known				
Ground conditions checked and are suitable				
Load is not more than 90% of crane capacity (at working radius)	Yes	No		

	Value		PICOL	Driver
Lifting Radius (maximum)				
Boom Length				
Load Chart Using				
Crane Capacity (at maximum radius & boom length)				
Load Weight				
Estimated weight if actual weight not known				
Ground conditions checked and are suitable				
Load is not more than 90% of crane capacity (at working radius)	Yes	No		

LIFTING PLAN

TITLE:	
DATE:	**PERMIT NUMBER:**
Crane type and capacity:	
Indicate the location(s) the load is expected to be moving from and to: Multiple locations should have multiple sketches.	
From:	**To:**
From:	**To:**
DESCRIPTION OF LIFTING OPERATION (include list of attachments where additional information is contained):	

Lift Category **Routine** ☐ **Non-Routine** ☐ **Complex** ☐

Sketch(s) of lifting operation enclosed: **Yes / No**

Weight of load(s): **Actual / Assessed**

Indicate number of lifts required to complete the task (complex only):

Lifting Equipment and Accessories supplied by: **Todd / Contractor**

Lifting Equipment and Accessories to be used. Specify type and WLL (Working Load Limit) for Non-routine / Complex

Type	Capacity	Comment

All lifting operations require the following to be considered, but this list is not exhaustive. Tick box & show controls in JHA.

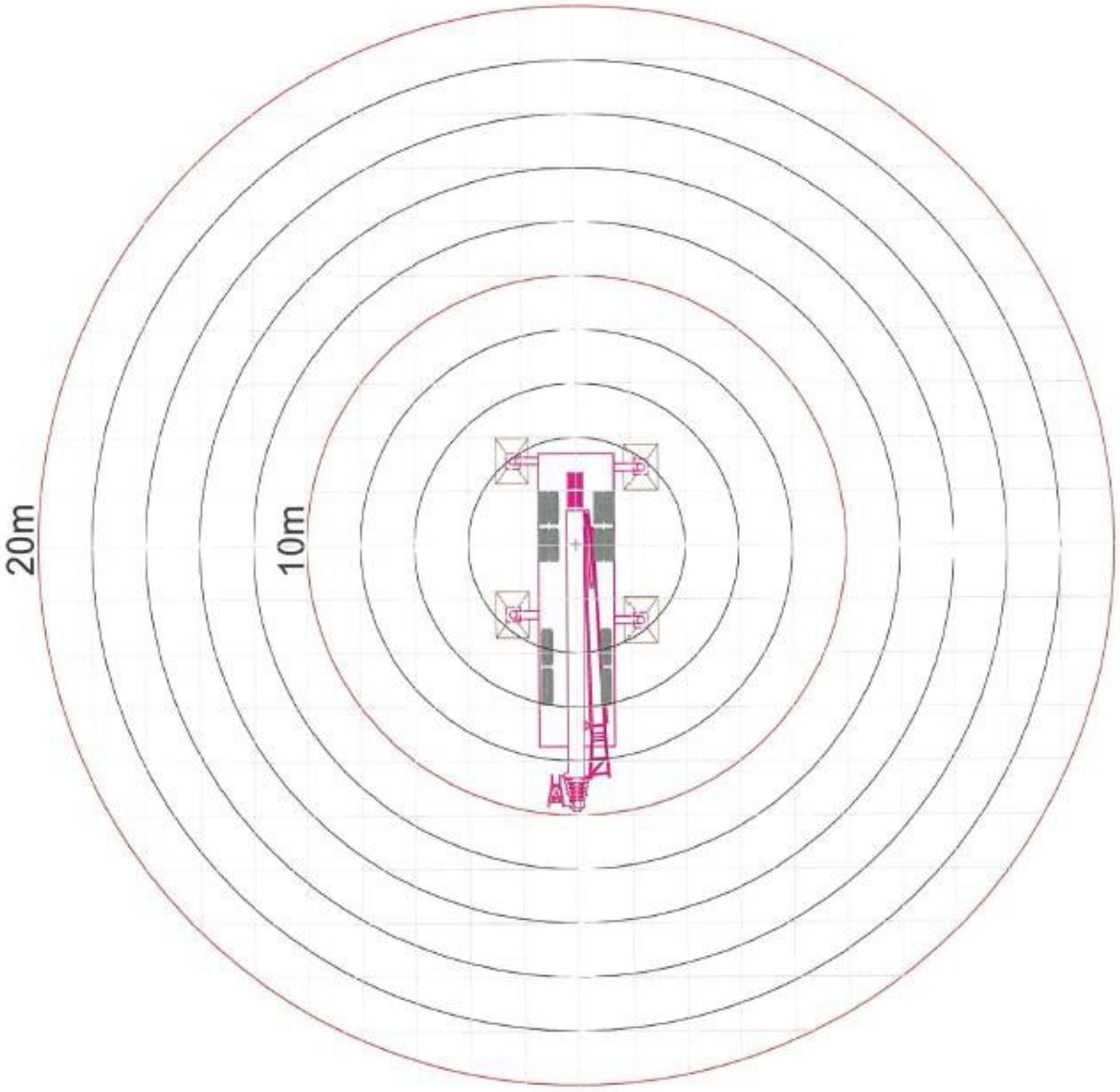
- ☐ Weight, size, shape & Centre of Gravity of load
- ☐ Method of slinging/ attaching/detaching the load
- ☐ Availability of approved lifting points on load
- ☐ Pre-use equipment checks by operator
- ☐ Proximity hazards, obstructions, path of load
- ☐ Access and emergency escape routes
- ☐ Number and duration of lifts
- ☐ Visibility of the load
- ☐ Lifting over live equipment
- ☐ Conflicting tasks in area
- ☐ Working under suspended loads
- ☐ Overturning /load integrity/need for tag lines
- ☐ Environmental conditions including weather
- ☐ Experience, competence & training of personnel
- ☐ Number of personnel required for task
- ☐ Communication requirements
- ☐ Lighting in the pick-up and lay down area
- ☐ Initial and final load positions & how it gets there
- ☐ Suitability and condition of lifting equipment
- ☐ Pre-use inspection of certified equipment only

Method(s) of communication to be used **Radio** ☐ **Verbal** ☐ **Hand Signals** ☐

PLANNED BY:					
NAME:		**SIGNATURE:**		**DATE:**	
REVIEWED BY:					
NAME:		**SIGNATURE:**		**DATE:**	
APPROVED BY PICOL:					
NAME:		**SIGNATURE:**		**DATE:**	
APPROVED BY Competent Persons holding: US3799, 9561, or National Certificate – Intermediate Rigging Level-3					
NAME:		**SIGNATURE:**		**DATE:**	

In the following chart establish safe working radius of lift to be undertaken:

- Establish Maximum Radius for the load you are lifting
- Establish safe working distance radius for the load you are lifting



"A Load Rating Chart inserted into the lift plan is required. Choose the appropriate chart for model of crane being used."